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ABSTRACT

This report describes findings from a study that identified promising policies and practices used by community college teacher education programs nationwide. Researchers focused on six public, urban, and community college programs that: had a significant percentage of students of color; had transfer rates higher than the national average; offered programs that provided students with course work, experiences, and support introducing them to teaching; and were close to four-year partner institutions. Researchers examined programs and practices, program materials, and relevant literature. They visited each site and conducted interviews and focus groups with program directors students, faculty members, administrators, and alumni from the community college and four-year transferring institution. They also visited field experience sites, observed teacher preparation classes, and participated in other related activities. Finally, they gathered information about policies and practices in all 50 states. Results found clear evidence that, with certain program elements in place, community colleges can play a central role in the development of a diverse pool of prospective teachers with the potential to help meet the needs of urban classrooms. Recommendations for two-year and four-year colleges, grantmakers, and local, state, and federal policymakers are included. Highlights from each of the six programs are presented. (SM)

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Tapping Potential

Community College Students and America's Teacher Recruitment Challenge

RNT

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RNT

About RNT

Recruiting New Teachers, Inc. (RNT) is a national nonprofit organization formed in 1986 to raise esteem for teaching, expand the pool of prospective teachers, and improve the nation's teacher recruitment, development, and diversity policies and practices.

For more information about RNT, contact us at (617) 489-6000; 385 Concord Avenue, Belmont, MA 02478; rnt@rnt.org; www.rnt.org. Be sure to visit RNT's National Teacher Recruitment Clearinghouse at www.recruitingteachers.org.

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RNT is grateful to the students and administrators for the time and resources provided by the six community colleges in the study: Bronx Community College, El Paso Community College, Henry Ford Community College, Miami-Dade Community College, Community College of Philadelphia, and Phoenix College.

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Anne Simmons, *Senior Writer & Program Associate*

Betty Synan, *Office Manager*

Graphic Design – Colvin/Williams, Inc.

Research Team

Mildred J. Hudson, Ph.D., *Principal Investigator*

Elizabeth Foster, *Policy & Research Associate*

Jacqueline Jordan Irvine, Ph.D., *Charles Howard Candler Professor of Urban Education, Division of Education at Emory University, Lead Researcher*

Barbara J. Holmes, Ph.D., *Educational Consultant*

Ana Maria Villegas, Ph.D., *Professor of Curriculum and Teaching, Montclair State University*

Researchers/Writers

Elizabeth Foster, *Policy & Research Associate*

Anne Simmons, *Senior Writer & Program Associate*

Advisors

Mary Dilworth, Ed.D., *Vice President for Research, American Association of Colleges for Teacher Education*

Terry O'Banion, Ph.D., *Senior League Fellow and President Emeritus, League for Innovation in the Community College*

Shirley Schwartz, Ph.D., *Director of Special Projects, Council of the Great City Schools*

Susan S. Wood, Ed.D., *Past President, American Mathematics Association of Two-Year Colleges, and Professor of Mathematics, J. Sargeant Reynolds Community College*

Karin Egan, *ex officio*, Carnegie Corporation of New York

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Introduction

"If we accept the notion that teachers shape the future of our country, then it follows that the needs of an increasingly diverse democratic society will best be met by a teaching force that is proportionately, or at least representatively, diverse."

— Jorgenson[1]

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Introduction

Community college teacher education programs are an important link in forging an improved pipeline to a more qualified and diverse teaching force—particularly for urban districts—at a time when the need for such teachers has never been greater. Community college participation in teacher recruitment and development has been described as the "missing rung" of the teacher education ladder.[2] Community college students represent an important, yet still largely untapped, pool of prospective teachers. Despite evidence of their promise, the role of community colleges in helping to solve the nation's teacher shortage crisis remains relatively unexplored.

With 1,100 institutions nationwide that educate a total of 10 million students—a third are students of color—community colleges provide access to the largest number and greatest diversity of students in higher education. Half the freshmen in higher education, and 44% of all undergraduates, are enrolled in community colleges.[3] Approximately 20% of current teachers started their education at a community college.[4] This represents roughly 600,000 teachers or more than one-quarter of the nation's projected need over the next ten years.

Currently, community college teacher preparation programs across the country vary considerably in their approaches to introducing community college students to teaching. Some offer a wide array of teaching-related courses that lead to a certificate or credential, or an associate's degree that can meet all or most of the general requirements of the first two years at a four-year institution. Comprehensive programs build on a foundation of liberal arts, whether their structure is one of a strong liberal arts core with a few teaching courses and activities, or a focus on teaching that requires students to have a strong liberal arts preparation. There also are community colleges that offer only loosely connected courses in education and that provide professional development for current teachers.

Since teachers must earn a bachelor's degree before they can be certified, students who start at a community college must transfer to a four-year college or university in order to go on to become a teacher. Articulation agreements, in which two- and four-year institutions establish which community college credits will be accepted at the four-year institution, help smooth the transfer process and ensure that students don't "lose" credits or have to repeat courses. Many community college teacher preparation programs, therefore, include a focus on preparing students academically and socially for the transfer.

Comprehensive and successful programs can address teacher shortages, and can recruit from a pool of future teachers who share backgrounds similar to the students in today's urban schools.

Comprehensive community college teacher programs recruit individuals interested in teaching, and offer sequential course work, future teacher clubs, test preparation courses, workshops on transfer, formal advising, and opportunities for fieldwork in local schools. Urban programs often emphasize culturally relevant pedagogy and the realities of urban teaching. Full-fledged education programs provide students with an introduction to teaching through relevant course work and experience in the classroom, a clear path to transfer to the four-year institution, and enough information to make an informed commitment to pursue education at the four-year college or university and as a career. Comprehensive and successful programs can address teacher shortages, and can recruit from a pool of future teachers who share backgrounds similar to the students in today's urban schools. These programs are going to be of increasing interest as more and more community colleges are looking to offer expanded courses in teacher preparation and even, in a much-debated development, teaching credentials.

Teacher Shortage

By 2010, the U.S. Department of Education predicts that America will need more than 2.4 million teachers because of rising enrollments and increasing teacher retirements. Districts across the country, particularly urban districts, are desperately looking for teachers to fill classrooms. Today, school leaders compete for a dwindling pool of qualified and diverse teachers, and school districts and states are resorting to cash bonuses and incentives to lure talented teachers to their districts. In addition to severe subject-area shortages, the U.S. Department of Education reports that teachers of color are significantly underrepresented in America's public school teaching force, which is made up of approximately 36% students of color and only 13% teachers of color.

"Of particular concern is the need for educators at all levels—K-12 through Ph.D.—who are well prepared in science and mathematics, knowledgeable in the use of new instructional technologies, and skilled in a variety of effective teaching methods that lend relevance and inspiration to the learning experience."
— Fortenberry[5]

Many urban districts today are forced to hire individuals from any background—even under-qualified individuals—on emergency waivers, in the absence of an adequate number of fully qualified candidates. In fact, research finds that, at the high school level, nearly one-third of mathematics teachers do not have at least a minor in mathematics; about one-quarter of the English teachers have neither a major nor minor in English; and roughly half of all high school students enrolled in physical science classes are taught by teachers without at least a minor in any of the physical sciences.[6] Today, the recruitment challenge in mathematics, science, bilingual, and special education is still particularly acute, especially in disadvantaged urban schools. Urban children typically end up with the least qualified teachers, who are unprepared for the task of teaching, and unfamiliar with the communities and lifestyles of their students and families. Many new teachers in urban settings end up leaving the profession.

According to *Quality Counts '98*, from the publishers of *Education Week*, urban schoolchildren are "twice as likely" as nonurban children to have teachers with no license or an emergency or temporary license. The percentage of unlicensed and under-licensed teachers in urban districts can be as high as 31%, compared to 7% in some nonurban districts. In addition, *Quality Counts* found that in 1996, 59% of urban eighth graders had at least one teacher leave during the school year, compared to 27% for eighth graders in nonurban districts.[7]

Where will the teachers come from? We need to tap a new source of teachers—dedicated individuals who are trained and qualified, and who have the desire and potential to work with children, feel comfortable in urban settings, and can relate to the lives of the children they teach.

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THE ROLE OF COMMUNITY COLLEGES

Community colleges today aim to provide a wide range of students with comprehensive postsecondary educational opportunities. They offer career training, collegiate and remedial courses, and academic transfer programs. They provide training for "welfare-to-work" participants, programs for adults who return for postbaccalaureate education, and courses for those who need remediation and job training. And, community colleges offer activities and educational opportunities that appeal to all segments of the communities they serve. In addition, many students who go on to obtain a bachelor's degree receive their only liberal arts training at the community college. In Miami-Dade, which is the fourth largest school district in the U.S., approximately 70% of elementary school teachers receive all their mathematics and science education from the community college.[8]

The open access of community colleges fulfills the promise of democracy in education, allowing educational opportunity for a wide range of individuals. Their low-cost tuition and fees, open-door policy, location, flexible schedules, and community services attract a diverse population of students. These colleges admit students who seek a school close to home, can't afford tuition at other colleges, have personal responsibilities that don't allow them to attend school full-time, have lost their jobs and need retraining, or are "late bloomers" who have experienced a delayed interest in or ability to pursue a college education. Community colleges open their doors to large numbers of individuals whose life circumstances prohibit them from pursuing higher education at a four-year college or university. Community colleges have played a central role in serving the workforce needs of millions of people from every profession, jump-starting the careers of lawyers, car mechanics, engineers, doctors, computer scientists—and teachers.

At Miami-Dade Community College, faculty often recount this story: A secretary to the president of one of the campuses was being impaneled on a jury, and as part of her interview, was asked her place of employment. She replied, "Miami-Dade Community College." The attorney then responded, "Oh, I went to Miami-Dade." "So did I," chimed the judge. "So did I," said the defense attorney. Finally, much to the chagrin of the alumni, the defendant added that he, too, was a graduate of Miami-Dade.

Community colleges boast highly successful graduates in every field, which attests to the caliber of individuals who begin their professional training at community colleges. Notable alumni include Wayne Watson, chancellor of the City Colleges of Chicago; Texas Supreme Court Justice Robert Gammage; Congressman Silvestre Reyes (D-TX); the late Gwendolyn Brooks, Poet Laureate; and Kweisi Mfume, director of the NAACP. Of note are many educators—teachers, principals, college faculty members, and authors. Educator Marilyn Setina, who has been recognized for many accomplishments over the years, including receiving the "Who's Who in America's Best Teachers Award" in 1996–97, began her career at a community college.

RNT STUDY

The purpose of the RNT research was to identify promising policies and practices used by community college teacher education programs across the country. The goal of the project was to disseminate useful information to states, four-year colleges and universities, community colleges, policymakers, grantmakers, and the general public to encourage the improvement of existing programs and the development of new ones.

To gather information about the practices and potential of community college teacher preparation programs, RNT included in this study six public, urban, community college programs that met a carefully

determined set of criteria, including a significant percentage of students of color, transfer rates higher than the national average, and programs that provide students with course work, experiences, and support that introduce them to teaching. RNT also looked for programs located in close proximity to a four-year partner institution with which they have articulation agreements that facilitate transfer, enabling students to enter bachelor's degree-level teacher preparation programs. RNT chose urban programs that are responding to local teacher shortages; to the need for teachers for particular subjects, such as mathematics, science, and bilingual education; and to the need for teachers for urban schools.

FACTS AT A GLANCE

- Since 1901, at least 100 million people have attended community colleges.
- Today, more than 10 million students attend community colleges.
- Half the freshmen in higher education and 44% of all undergraduates are enrolled in community colleges.
- Community colleges enroll more than one-third of all students taking college-level science, mathematics, and technology courses.
- Community colleges educate 46% of African-American undergraduates in higher education, 55% of Hispanic students, 46% of Asian/Pacific Islander students, and 55% of Native American students.
- Fifty-three percent of all first-generation college students start at community colleges.
- Community college students are older (average age of 29) than traditional college freshmen who attend four-year institutions, come from lower-income families, and are less dependent on their parents for support.[9]

The study included:

- The Education Associate Program at Bronx Community College in New York, a program started in the 1970s to help increase the diversity in the teaching force and address the severe local shortage of teachers.
- The Partnership for Excellence in Teacher Education program at El Paso Community College in Texas, funded through a 1996 National Science Foundation grant to train a diverse group of students for careers in mathematics and science for the El Paso school district.
- The Pre-Education Program at Henry Ford Community College in Dearborn, Michigan, formed in 1994 to enhance the College's pre-education program to better address the local need for teachers.
- The School of Education at Miami-Dade Community College in Miami, Florida, which consolidated its long-standing education programs in 1998 in an effort to enhance the existing education agenda and improve efforts to address the teacher shortage crisis in Miami-Dade public schools, especially the need for teachers of color.
- The Education Curriculum at the Community College of Philadelphia in Pennsylvania, in existence since 1965, and enhanced in 1993 by a National Science Foundation grant, to address the local teacher shortage—especially in mathematics and science.
- The Urban Teacher Corps at Phoenix College in Arizona, started in 1989 to help solve the local teacher shortage, especially in bilingual education, by supporting district employees to become certified and return to their district to teach.

RNT examined programs and practices, analyzed program materials, and reviewed relevant literature. Visits were made to each site, and interviews and focus groups were conducted with program directors, students, faculty members, administrators, and alumni from the community college and the four-year transferring institution. RNT visited field experience sites, observed teacher preparation classes, and participated in other related activities.

In addition, RNT gathered information about policies and practices in all 50 states. Interviews were conducted with state department representatives from eight states that have the largest community college student population, and thus, the largest pools of prospective teachers starting at the community college level.

Community Colleges:
A Promising Source of Teachers

"Quite honestly, we have **a better retention rate** of students getting their degrees from community colleges than from first-time freshmen. For teacher education especially, the community colleges are a very **important source** of students who are interested in teaching."

— Lehman College dean

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Community Colleges: A Promising Source of Teachers

In looking to create a qualified workforce that reflects the population in our schools, public two-year community college students present a potentially rich resource for recruiting and preparing capable, well-trained, and culturally sensitive future teachers for urban classrooms. Community colleges serve many nontraditional students: part-time students, older adults, parents, and low-income students.

Research suggests that expanding recruitment of nontraditional candidates into the teaching field yields very positive results, in the form of dedicated, well-trained, and highly skilled teachers. Teachers who are older tend to be more resilient and more successful in maintaining classroom discipline than younger teachers, and teachers from urban communities are more likely to want to teach in an urban school.[10] Teachers from similar ethnic and racial backgrounds to their students share and understand perspectives or behaviors of their students, and also tend to have higher expectations for students and their academic and personal potential.[11] In addition, many community college students are interested in teaching in communities where they grew up and research has shown a positive relationship exists when the background of teachers and students is similar.

The open-door admissions policies of community colleges have led some to believe that community college preparation is inferior to university course work and that teachers prepared at the community college level would not make high-quality teachers. The reality, however, is quite the opposite. The teacher preparation programs RNT studied hold students to high standards: Future teachers are expected to do well in their courses and to demonstrate an understanding and reflection about their teaching styles. Community colleges set standards for students to progress and succeed in the program and transfer to a four-year institution. And, individual four-year institutions set admissions criteria for schools or departments of education and often collaborate with the community college faculty on developing standards for the community college program. Further, the education programs offer high-quality, relevant teacher training preparation, based on culturally responsive pedagogy and contextualized learning, both generally accepted as hallmarks of quality teacher preparation. Ultimately, only the highest achieving students transfer to the four-year education programs and go on to teach; those students are well grounded in an introduction to teaching and learning, have experience in schools, and are committed, in an informed way, to pursuing teaching careers.

Picture a funnel: The mouth allows a vast number of students into the often-closed doors of higher education, but, as the selection and retention criteria for the teacher education programs, and the demands of rigorous courses and transfer requirements are applied, fewer students get through.

In brief:

- Students who transfer from community colleges to four-year institutions do just as well academically as students who start out at the four-year college or university.
- Community college education students possess characteristics that can contribute to success in their college life and to their success as teachers.
- Community college students have potential to increase the diversity and teacher retention rates in local school districts.
- Community college students often come from the urban community in which they will teach, and are familiar with local schools and communities.

Academic Excellence

Community college students often need to take remedial courses because of language barriers, inadequate K-12 preparation, or a long absence from schooling. Evidence indicates that, after completing the required remedial work, community college transfer students are as successful academically, and graduate at the same rate, as students who start at the four-year institution as freshmen.[12]

"Our students are a little more aggressive about their education. They have more of a feel of wanting to get something out of their education, rather than a more passive kind of student."
— El Paso Community College faculty member

Research also has shown that community college students who are preparing to be teachers in education programs do as well as students who begin their studies at four-year colleges or universities. The Urban Teacher Corps program at Phoenix College, where up to 80% of its students graduate with honors from Arizona State University College of Education, serves as a good example.

According to the Educational Testing Service (ETS), the world's largest private educational measurement organization, the "persistence rate," or rate at which community college students remain in college and graduate, is the same as that of students who begin at four-year schools. In addition, ETS found that community college graduates are about equally competitive in the job market as their counterparts who begin at four-year colleges.[13]

Administrators at all six sites in the RNT study report that their education students tend to be stronger academically and more motivated and goal oriented than the rest of the community college student body. Faculty and administrators at Temple University, to which many students transfer from the Community College of Philadelphia, noted that community college transfer education students and students who start out at the four-year institution perform equally on the Professional Assessment of Beginning Teachers test (PRAXIS), a set of rigorous assessments used by state education agencies in making teacher licensing decisions.

In general, students interviewed for the study felt that the community college teacher education programs prepared them well for the academic and student-teaching demands at the four-year institution's teacher education program. Comments from faculty

Facts at a Glance

- **Approximately 20% of current teachers started their education at a community college.**[14] This represents roughly 600,000 teachers, or one-quarter of the nation's projected need over the next ten years.
- **More than 50% of urban community college students are students of color.**[15]
- **Community college students often come from the community in which they will teach**, and therefore may be less prone to the culture shock that affects many teachers from outside the urban community; reflect the demographics of the community; and can increase the diversity of the area teaching force.
- **Many community college students are first-generation college students.** This is significant in that teaching is a profession that tends to attract a large proportion of first-generation professionals.[16]
- **Many community college education students choose to teach in local schools.** In the Lehman College program in the Bronx, about 80% of their graduates (two-thirds of whom start at community colleges) end up teaching in Bronx schools.

at the four-year receiving institutions suggest that, in some cases, transfer students are *better* prepared than other students because they have had direct experience in schools, through their community college preparation. Miami-Dade reports that their students consistently outperform students who start out at the four-year institution, in terms of GPA and retention, and that some of their graduates have achieved National Board certification.

Strength of Character

A large number of community college students attend school while raising families, and must overcome financial hurdles, or work while they attend classes. Because of the challenges they overcome to succeed academically, community college students often bring unique strength and perseverance to their studies. One Phoenix College faculty member referred to the students as "survivors."

"The students already have an exposure to teaching, and have a maturity that often doesn't evolve as easily in freshmen who start their first two years here."
— Lehman College dean

Like their counterparts in four-year institutions, community college students today often need to take remedial courses to help build up their basic reading, writing, and mathematics skills when they enter college. More than half of all high school graduates (including those who enter four-year colleges or universities) are unprepared for college-level work and must take remedial courses prior to earning credit in a college program.[17] Many older community college students take extensive course work to make up for having been out of school for years.

The large numbers of community college students who are first-generation college-going students, often unfamiliar with college norms, bureaucracy, test taking, and other aspects of the college environment, need additional help before entering college-credit courses.

According to many community college faculty and administrators in teacher education programs, students tend to enter the community college with maturity, experience with children, and an understanding of the city school system—attributes that serve as assets in their teacher preparation work and, later, in the classroom. They frequently are more goal oriented and self-directed than traditional or younger students. Many community college students—who tend to be older than the traditional college student—deliberately seek out and decide to attend college, often at enormous personal cost, as opposed to the traditional college freshman, who often is encouraged at age 18 to follow a track to college. Many community college students exhibit a fervent dedication, or recommitment to intellectual fulfillment or a specific career ambition, after often-long absences from educational life. Others are career-changers, who are eager for retraining in another field.

"Academic shortcomings on the part of highly committed individuals are easier to overcome than a lack of commitment to teaching."
—Goodlad[18]

Contributions to the Community

Indications are that there are many community college students who want to become teachers and, once they reenter education and further develop their academic and study skills, become passionate about returning to their communities and improving education for the next generation.

Community college students also show promise of boosting teacher retention rates in local districts. The average teacher attends a college less than one hundred miles away from home and usually returns to his/her own community to teach.[17] For example, 75% to 80% of the Community College of Philadelphia graduates remain in the city as active contributing members of the community.

Since many community college students were raised in the community in which they will teach, they may be less likely to leave than are the high numbers of teachers in urban districts who abandon the profession within the first years of teaching, due largely to the well-documented culture shock of teaching in an unfamiliar urban environment. Students who know the community, the cultures of the families, and the school environment, can play an important role in serving as role models and cultural translators for children.

"I understand what the city streets are like, and therefore I can understand some of the problems the kids may be going through, how to relate to them as people, and not speak down to them. We can let them know that, yes, there are certain problems here, but you can overcome them."

— Bronx Community College student

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What Works and Why

"We get advice and a lot of feedback from community college program teachers ... and a lot of care. They really are on top of everything.... We also have workshops, meetings, and get-togethers."

— Phoenix College student

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What Works and Why

Community college programs that help to recruit and prepare future K-12 teachers have a great deal of promise to address teacher shortages in urban areas, due to the population of students from which they draw; their efforts to prepare teachers who are familiar with the community in which they will teach; and their close partnerships with four-year programs that lead to bachelor's degrees and teacher certification. In-depth study of the six sites named on page 11 provided an answer to an important question: "What are the key characteristics of community college K-12 teacher recruitment and preparation programs that have demonstrated success in supporting, preparing, and helping to transfer students interested in teaching?" RNT also asked state representatives about policies and practices that support such programs.

There is no one model for an effective community college teacher preparation program, yet the six sites RNT chose provide important information about the essential program structures and elements that work to help students earn a bachelor's degree and become certified teachers who can meet the needs of urban communities. The sites have different histories and populations, but all have great potential to address local shortages and to serve as replicable models. The following salient characteristics of successful programs are suggested by the research.

Clear Goals

Although different in mission, all of the programs in the RNT study were initiated with explicit goals to address local shortages of teachers; to increase the ranks of mathematics, science, and bilingual teachers; or to recruit individuals who will bring diversity to the local teaching force. Clear goals help to focus the program and encourage shared purpose among administrators, faculty, and students. Clarity of purpose also encourages the effective use of resources and funding, and strengthens institutional collaborations around mutual objectives.

As one example, the Urban Teacher Corps program at Phoenix College was founded in direct response to the local need for bilingual educators, and recruits teacher aides and other school district personnel to participate in a program that will return them to their districts as fully qualified teachers. This singular goal, shared by the students, participating districts, Phoenix College, and Arizona State University, encourages everyone to work together to seek out and support promising future teachers and direct resources to ensure student retention and the program's growth.

Strong Leadership

A strong and committed leader can marshal the personal and institutional support needed to ensure that the program becomes well established and can enjoy longevity. Among the most important characteristics of such leaders are a background in education, a passion for teaching and preparing future teachers, dedication to students and their success, and boundless energy and enthusiasm. The program director not only maintains the program, but also supports students, advocates for the program, and builds and sustains institutional relationships within the community college and with four-year partner institutions. Effective leaders have strong organizational knowledge and skills, and also model many of the qualities of effective teaching in their interactions with students.

"I don't know if you've been in her office, but her whole back wall is nothing but pictures of her students. Teachers like that make you want to work hard."

— Community College of Philadelphia student

One example illustrates the character and capacity of a program director. The Bronx Education Associate Program director holds a doctoral degree in educational administration and is a former high school English teacher. He exhibits considerable talent in managing people and resources, and has the support and "ear" of the community college administration. He is responsible for positioning the education program as one of the most significant degree programs at the community college. He interacts on a daily basis with the students as their informal advisor—he even gives students his home phone number, in case they have an urgent question. His care, support, high standards, and expectations for the students are clear and unequivocal.

Dedicated and Demanding Faculty

"We practice tough love with the students... that's what we really believe in."
—Bronx Community College program director

Community college teacher education program faculty are not mere deliverers of instruction, but also lend essential support to students by serving as accessible advisors, tutors, and mentors. Faculty dedication and relationships provide support from the individual student level to the institutional level.

In general, students in the RNT study felt that their community college education teachers expected a lot from them and held them to high academic standards, which motivated them to do well. Students describe the faculty members in their programs as warm and demanding teachers, model classroom practitioners, mentors, counselors, and friends. Since many learn from adjunct faculty who are classroom practitioners, students benefit from real-life examples, and learn innovative teaching techniques that work. Many faculty members also build relationships with faculty from other departments and four-year partner institutions.

As an example, Partnership for Excellence in Teacher Education science and mathematics faculty at El Paso Community College serve as formal mentors for students interested in mathematics and science education—in addition to teaching—and are paid through a National Science Foundation grant for release time to advise students. Mentors spend at least two hours a week with each student, help them with course work and transfer, and encourage them to attend conferences and conduct research that moves them beyond the classroom experience. In addition, mentors focus on building students' confidence and helping them develop and practice the skills and self-assurance that good teaching demands.

Well-Planned and Consistent Recruitment Efforts

Community colleges, with their strong links to the local community, can identify promising candidates for teaching and help start them on the pathway to teaching careers. Among the pools targeted for recruitment by community college K-12 teacher recruitment and preparation programs are high school students about to graduate, paraeducators, students enrolled at the community college with undeclared majors, and students majoring in mathematics or science with an interest in teaching. Creative and aggressive efforts to identify and attract students who sit in general education courses and who are undecided about becoming a teacher can yield new teacher candidates.

The education programs in the RNT study use a variety of methods to recruit students: presentations at high school college fairs, outreach to high school guidance counselors, and informing community

college students who haven't yet chosen a major. Brochures describe the local need for teachers and the path to teaching. Program personnel host conferences and work with local high schools to recruit students interested in teaching careers.

Henry Ford Community College's Pre-Education Program demonstrates a thorough approach to recruitment. In collaboration with the enrollment management office, flyers about the program are distributed to all local high school students to ensure a broad outreach. Students enrolled in the college, but not yet involved in the education program, are invited to attend an annual conference. Students of color can attend a special weeklong Partners Plus Conference, at which a presentation on the education program is made. The program's open enrollment policy also brings in students who may be interested in teaching but have not declared an education major, such as parents, child care workers, and mathematics and science majors.

A Well-Designed, Relevant, and Coherent Curriculum

Today's urban classrooms need teachers who have the highest of standards for all students, call on real-life experiences, and also are trained to be culturally sensitive. Modeling effective teaching and providing positive, relevant, and stimulating educational experiences are important ingredients of community college teacher education programs. Working and observing in a classroom allows community college education students to experience the realities of teaching, the planning required, job expectations, and the grade levels at which they can be most effective.

Urban classrooms need teachers who have high standards, call on real-life experiences, and are trained to be culturally sensitive.

A comprehensive program is made up of a core of up to 60 fully transferable credits in education, psychology, and general liberal arts, leading to an associate's degree. Depending on state requirements and institutional agreements, students can major either in education, with a concentration in a subject area, or in the subject area in which they wish to teach. Prospective teachers can take such courses as educational psychology, contemporary urban education, mathematics for elementary teachers, teaching reading, and introduction to educational technology. Courses can have a field experience component, either in the form of observation, tutoring, or student teaching.

"Miami-Dade Community College is easy to get into, but difficult to get out of, because of the high standards for graduation placed on students."
— Miami-Dade Community College faculty member

Community colleges in the RNT study hold students to high standards. Many community colleges require students to have a 2.5 to 3.0 grade point average to remain in the program and transfer to a four-year institution. Future teachers are evaluated for professionalism, creativity, ability to engage students and communicate their subject matter, and performance in the fieldwork experience. According to faculty and administrators, these teacher education students tend to be strong academically, value education, and are exceptionally determined to go on to complete a four-year degree.

"I hated mathematics in high school. I hated it. My first semester of college, I loved it. Now I'm doing a minor in mathematics."
— Henry Ford Community College student

At the Community College of Philadelphia, Education Curriculum program faculty members focus on thoughtful demonstration, consistently emphasizing the joys of teaching, the importance of a positive class environment, and ways

teachers can lead classrooms and schools. In one educational psychology class, the professor focused the discussion around how culture, race, and socioeconomic status impact classroom dynamics. The professor tied the discussion of multiculturalism to the standards of the Philadelphia school system and asked students repeatedly, "What would you do as an educator in this situation?"

"It is different learning to teach something than just taking a class. To organize one's thoughts and to get across a concept is really different. We teach the way we want them to teach."
— El Paso Community College faculty member

Henry Ford pre-education courses include between 20 and 45 hours of experience in the classroom, where students observe, assist, or tutor students. Optional projects in instructional technology and mathematics for elementary teachers include an additional 10–15 hours in the classroom. In addition, through the Local Alliance program, an Eisenhower Higher Education grant-funded program designed to recruit underrepresented individuals to become middle and high school urban mathematics teachers, Henry Ford pre-education students have the opportunity to work in urban mathematics classrooms and meet, talk, and share ideas with experienced urban teachers.

El Paso students work with children in local schools, through classroom observing and the "mini-teach" experience, in which students have the opportunity to prepare and execute a lesson in front of either grade school students who are invited onto campus or peers.

Current and former students from the Bronx Education Associate Program agreed about the rigorous requirements of the course work and field placement experiences, and former students expressed the belief that this rigor prepared them well for their experience at a four-year college or university. The program director acknowledged that while community college teacher preparation students often have work and life challenges that could potentially derail their educational efforts, no allowances in the academic and experiential requirements are made as a result.

Partnerships with Four-Year Institutions

Although about 40% of incoming community college students say they intend to transfer, only 25% or fewer ever end up in four-year institutions within five years.[20] An even lower percentage of students of color successfully complete the transfer. Therefore, collaborations with four-year institutions, and alignment with their departments and schools of education, are key to smoothing and strengthening the transfer process and ensuring that prospective teachers continue on the path to teaching.

Formal articulation agreements between community colleges and their four-year partners, regarding the courses and credits for transfer, are critical. Articulation agreements are formal documents outlining the alignment and acceptance of courses, criteria, and requirements between two-year institutions and the four-year institutions to which students can transfer. These agreements make it easier for faculty to advise students on courses that will easily transfer, and prevent waste of time, credits, and resources. An articulation agreement might include such specifics as course descriptions; course syllabi requirements; a grade point minimum; test requirements; and student, community college, and partner-college or -university responsibilities. Although informal institutional partnerships can ease transfer for some students, a formal articulation agreement and/or one specific to the teacher training pathway can prevent the program director from

"These courses have to be very carefully thought through—that's why the articulation is just so essential between institutions—so students get the appropriate background in general education, don't have to make up courses, and are able to go directly into their major and into the teacher education sequence."
—Lehman College dean

spending considerable time establishing and maintaining agreements with four-year institutions. Articulation agreements are handled in different ways. For example, the program director and transfer counselor in Philadelphia develop and maintain the articulation agreements regarding the education program; in El Paso, the four-year college takes the lead; and in Miami, articulation agreements with public institutions are regulated by the state.

"Henry Ford and University of Michigan have a little 'marriage.' They take the transfer students and go over your transcript with you so you don't have to worry about ... 'this doesn't count, that doesn't count' or about getting there and having to slash courses."
— Henry Ford Community College student

The Community College of Philadelphia is an example of a community college with strong relationships with four-year institutions. With articulation agreements with 14 four-year institutions, the community college ensures that students who finish the associate's degree program can transfer to a baccalaureate program with just four semesters to complete. The community college program director belongs to Temple University's Core Curriculum Oversight Committee, which builds new courses, ensures courses and themes are aligned to state and NBPTS standards, and schedules, evaluates, and negotiates with other educational institutions. The college also has dual admission programs with Temple and Drexel universities; community college students have full status at the four-year institution. The agreement is open to graduates of Philadelphia high schools. Under its terms, community college students are guaranteed admittance into a bachelor's degree program, provided they complete their associate's degree within a specified GPA. Students have access to services at the four-year institution while attending the Community College of Philadelphia. Scholarship money is awarded to students who achieve a GPA of at least 3.2 or above. There are good will and collaboration, with the two faculties viewing each other as equals with a common goal. Holy Family College, which also has an articulation agreement with Philadelphia, benefits from the diversity that the community college students bring to the campus.

In one example of how the state role impacts programs, in Florida, Miami-Dade Community College offers the same course content, titles, and numbers as are offered during the first two years at the four-year college or university. Thus, when a community college student enters the four-year institution as a junior, the transcript reads very much the same as it does for students who entered the university as freshmen. Students with an associate's degree automatically have junior status at any state university. And, since Florida specifies education courses at all levels, students are usually just an application away from a school of education at the four-year institution. To ensure that students can transfer to private institutions that do not have to abide by the state system, the Miami-Dade Community College School of Education also has developed articulation agreements—which are based on the state model—with several private institutions.

State Role

State-mandated articulation agreements ease the path for students to transfer from community colleges to four-year institutions. States have become increasingly involved in articulation, by encouraging collaborations and funding joint two-year and four-year initiatives, even when they do not mandate articulation agreements.

Although some states have chosen to mandate articulation agreements, few states provide adequate funding for faculty from both institutions to collaborate to restructure courses or develop the details of agreements. Three states in the RNT study—Florida, New York, and Arizona—have state-mandated articulation agreements, and the nature of these agreements varies from state to state. Some states specify teacher education requirements, whereas others do not. In the absence of a state-required agreement, institutions are left to negotiate and monitor the transfer of credits and course equivalencies.

Arizona requires that public universities and community colleges provide a seamless articulation and transfer system. Agreements between the Maricopa district—in which Phoenix College resides—and the Arizona public universities are strong, and are evaluated annually to ensure that any changes in courses or requirements are accommodated. Other states, such as New York, require that the two-year and four-year institutions show evidence of collaboration, but don't specify the details.

Student Support

Even when formal articulation agreements are in place, students often need help deciphering the complicated landscape of courses and policies at the two-year as well as the four-year partner institution. Formal or informal advising, counseling, tutoring, mentoring, and cohort grouping can support students as they negotiate courses and the transfer process. Furthermore, flexible schedules, organized study, support groups, tutoring, child care, and scholarship and tuition aid help students from nontraditional backgrounds progress, despite competing demands and limited finances. In addition, since some four-year colleges and universities now require successful completion of state teacher exams before students can be admitted into a four-year teacher preparation program, some community colleges take an aggressive role in preparing students for the exams.

Formal or informal faculty advising is critical to student success.

Cohort groups offer peer support and can enhance the academic process.

In the programs RNT studied, students receive support from the program director, faculty, academic advisors, guidance counselors, and/or transfer counselors. Education students can take advantage of the support offered to the general college population, but many also receive help from an individual designated to serve education students.

Community college students also need counseling in how to finance their education, especially when they seek to transfer to a more expensive institution to attain a bachelor's degree. Financial assistance for education students varies from loan programs to full scholarships. Students are eligible for federal and state undergraduate loans and scholarships and some programs also offer financial incentives. At the Miami-Dade School of Education, for example, students receive a tuition break if they transfer to Barry University, an effort on the university's part to recruit students and diversify the student body. Some Miami-Dade prospective teachers of color can take advantage of a state-sponsored scholarship, the Florida Fund for Minority Teachers, of $4,000 per year, for up to three years, if they transfer to one of the 29 participating state and private universities. At Henry Ford Community College, an Eisenhower grant pays tuition for one course for students in the Local Alliance program, an initiative to recruit underrepresented individuals to teach mathematics and science in urban schools.

"Education students are generally receptive to counseling and other support services, since they, themselves, are learning how to offer guidance to students."
—Transfer Counselor, Community College of Philadelphia

To facilitate transfer, some programs, such as Miami-Dade, provide a series of advisement sheets that list not only the required courses, but also the required or recommended courses for transfer to specific universities, for each of the 15 separate categories of education majors. In addition, Miami-Dade's Web site allows students to check their personal transcript against the state requirements for various majors and fields.

In El Paso's Partnership for Excellence in Teacher Education program, mentors spend two hours a week with each community college education student, providing them with accurate, up-to-date information on which of their courses will transfer to the area universities, what they need to secure a smooth transfer, and how they can balance their education and personal commitments. Mentors also encourage students to attend conferences and conduct research, and help them develop and practice the skills and self-assurance that good teaching demands.

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At the Community College of Philadelphia, regular learning labs are set up to provide special tutoring services for students. At the sites RNT visited, education faculty play a significant role in assisting students with writing, conceptualizing assignments, and fulfilling academic requirements.

Bronx Community College has a child care center on campus.

Funding and Sustainability

Programs can be sustained by grants for a short period of time, and much can be accomplished by a strong leader and dedicated faculty. However, the institutionalization of a program, supported by adequate funding, ensures that a program can endure. Programs without secure funding and support are in danger of spending valuable time and resources seeking external grants or advocating for the program's survival.

Formal and reliable relationships with four-year partner institutions and local school districts can also bolster a community college's teacher preparation efforts and provide opportunities to collaborate to seek multiple sources of funding from the community, state, and federal governments. In Miami, the School of Education has broad support from the administration, and extensive partnerships with local school districts provide support to ensure the future of the program. And, because the teacher education and technology programs are closely tied, the education program benefits from technology, financial, and other resources. The program has strong support from the director, faculty, administration, and community college as a whole; thus the ability of the program to survive is not dependent on one particular personality.

Like Miami-Dade, the Education Associate Program at Bronx Community College receives nearly all of its funding from the central community college administration. The program has become a key source of teachers for the area and sustains considerable attention and respect from top administrators at the college and in the larger community. To supplement the budget, the Bronx program received a grant to establish a resource library and has leveraged the relationship with Lehman College to apply for a technology grant.

Although secure, long-term funding is ideal, many programs succeed in winning substantial grants that often allow them to guide students to degrees and careers in teaching. However, when such grants are short-term, programs often are left vulnerable from year to year. El Paso Community College's Partnership for Excellence in Teacher Education program, for example, is coming to the end of its National Science Foundation (NSF) grant, which supports the students, faculty, activities, and coordinator. The program has strong support from faculty and students, but its future is uncertain.

Assessment and Monitoring of Students and the Program

Tracking students as they move through the program, on to a four-year college or university's education program, and to credentialing is complicated, but can help sustain and improve programs. Barriers to following students who transfer and go into teaching include funding, staffing, technological limitations, and lack of interinstitutional collaboration. One of the difficulties in obtaining accurate

"At the four-year college, they leave you to sink or swim. I was able to succeed at the four-year because they taught me how to swim."
— Bronx Community College student

information involves the irregular attendance patterns of community college students, who, for instance, often take time off between the two-year and four-year program or transfer before they earn an associate's degree. In addition, tracking systems often fail to follow community college students after they become integrated into the general student body at the four-year institution.

Ongoing evaluation is important to determine whether programs are meeting their goals.

Ongoing and consistent evaluation is important to determine whether the education programs are meeting their goals of supporting students interested in teaching, helping to prepare them for rigorous academic work and field experiences in schools, and ensuring that credits transfer smoothly to the four-year institution. Assessments vary, and can include surveys of current and former students, reviews of course syllabi and student performance, internal audits of the program by the community college, and external evaluations for accreditation purposes or by funders. Students are evaluated on the basis of GPAs, performance in class and in field experience placements, and, in some cases, performance once transferred and in the classroom teaching.

The Education Curriculum program at the Community College of Philadelphia provides an example of multifaceted assessment. In addition to a regular departmental audit and comprehensive information collected by the college and partner institutions, strong relationships between the students and faculty result in a consistent flow of information regarding former students' transfer and teaching careers. The program director also stays in close contact with many former students and tracks their progress.

Assessment of programs can be initiated by a number of sources. For example, Miami-Dade Community College boasts a sophisticated system of data collection, supported by the college's office of institutional research and the state system, producing reports that track and analyze demographic data, transfer, and graduation rates.

Phoenix is able to track their paraeducators all the way through the teacher education programs and back into the district as teachers, due to close collaboration with the districts throughout the students' academic careers.

The Henry Ford Pre-Education Program has implemented several evaluation measures, including GPA and writing requirements, follow-up student surveys, and a student portfolio, or journal. Through journals, students demonstrate an understanding of topics, such as learning styles, state standards, and creating engaging assignments. The journals include model worksheets, documentation about fieldwork, and notes about students' successes, challenges, and ideas for making course work assignments work better in the "real" classroom. Henry Ford faculty are currently developing measures to more closely track the retention and transfer of pre-education students.

Recommendations

These institutions, with their clear commitment to teaching and with so many prospective teachers as students, must be more significant partners in the system of teacher preparation.[21]

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Recommendations

The research conducted provides clear evidence that, with certain program elements in place, community colleges can play a central role in the development of a diverse pool of prospective teachers who have the potential to help meet the needs of America's urban classrooms.

Investing in the development of community college teacher education programs, and improving existing programs, is critical to the teacher recruitment and teacher quality effort in America. Not only do we need to find and prepare new and diverse pools of teacher candidates, but we need to more actively pursue potential teachers and make sure they are well prepared to teach critical shortage areas, like mathematics and science.

Working in collaboration with four-year institutions and school districts, community college teacher preparation programs can help communities "grow their own" teachers for hard-to-staff urban classrooms. Community colleges, four-year institutions, federal, state, and local policymakers, and grantmakers need to recognize the potential of these programs by establishing or strengthening policies and resources specifically devoted to ensuring qualified teachers in our nation's schools.

WHAT CAN COMMUNITY COLLEGES DO?

Community colleges can position themselves as leaders in forming partnerships that can directly impact local teacher shortages, and in addressing the needs of nontraditional students. They can play a major role in making sure that their teacher preparation programs are comprehensive and responsive to the needs of potential teachers and the needs of local schools.

Recommendations:

- ✔ Design teacher preparation programs that provide students with relevant, demanding course work and exposure to teaching.
- ✔ Make preparing future teachers part of the community college's mission and strategic plan.
- ✔ Advocate with four-year partners for the support and advancement of nontraditional students.
- ✔ Document the successful academic and teaching careers of current and former students to provide evidence of quality preparation and responsiveness to local teacher shortage needs.
- ✔ Work to establish federal loan forgiveness and special scholarship programs at the community college for prospective teachers.
- ✔ Work to develop assessment measures—in addition to student transfer—that accurately gauge student success.
- ✔ Strengthen interinstitutional relationships with four-year colleges and universities regarding teacher preparation by forging and maintaining articulation agreements, designating a point person, and providing administrative support.
- ✔ Provide consistent funding to teacher preparation programs and join with businesses and community organizations to secure additional resources.
- ✔ Provide financial support and release time for faculty members to help establish and sustain programs.
- ✔ Link with high school teacher preparation programs to recruit students already interested in teaching.

"Community colleges are everywhere, they can reach people where they live, provide flexibility and accessibility, and can bring in a diverse population."
—State policymaker

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WHAT CAN FOUR-YEAR INSTITUTIONS DO?

When four-year partner organizations collaborate with community colleges on teacher preparation efforts, it ensures a pool of promising, committed students for transfer, helps talented students enter teaching careers, enriches faculty experiences, and helps to address critical teacher shortages. Four-year institutions that acknowledge the strength of community college students and their potential to become qualified teachers, and appreciate the strengths of community college teacher education faculty and programs, can open opportunities for many potential teachers.

Recommendations:

- ✔ Develop long-term collaborations with community college faculty around teacher preparation course work and extracurricular activities to strengthen the connections between two-year and four-year programs, student needs, and local demands for teachers.
- ✔ Cement collaborative relationships in formal articulation agreements, which outline in detail transferable courses, course content, procedures for informing institutions and students about requirements and changes, and parties responsible for maintaining the agreements at each institution.
- ✔ Provide reduced tuition, scholarships, dual enrollment programs, and support systems for community college education students to encourage their transfer, retention, and graduation.
- ✔ Offer release time and support for faculty members interested in collaborating with community college teacher education faculty.
- ✔ Cultivate relationships with students and faculty that provide information about the strengths of nontraditional students.
- ✔ Gather data on the academic progress of transfer students, versus students who started at the four-year institution, to better determine success rates, placements once teaching, and effective support services.
- ✔ Work with high school teacher preparation programs to build a strong and coordinated pipeline into the teaching profession.
- ✔ Welcome community college transfer students to help ensure a high-quality, consistent, and diverse enrollment for four-year schools and departments of education.

"Transfer or articulation of prerequisite or lower-division courses leading to an education degree is problematic or nonexistent in many states, resulting in significant barriers for community college students who transfer."[22]

—Waiwaiole and Boswell, 2001

WHAT CAN LOCAL, STATE, AND FEDERAL POLICYMAKERS DO?

Policymakers can encourage collaboration and cooperation among community colleges, four-year institutions, and school districts. Funds can be directed to cross-institutional tracking to document which teachers start out at community colleges, how transfer student performance compares to that of students who start at four-year colleges, and whether or not urban community college students stay in urban areas to teach.

Recommendations:

- ✔ Encourage the establishment and maintenance of articulation agreements between community colleges and four-year institutions that facilitate the transfer of education students.
- ✔ Facilitate the development of models, built on best practices such as the ones in this report, to encourage the recruitment and support of community college education students.

- ✓ Ensure that scholarships, loan forgiveness opportunities, and other programs for future teachers support community college students.
- ✓ Fund initiatives that cultivate strong students at community colleges, to ensure that promising candidates complete their education, regardless of their financial means.
- ✓ Develop online and written materials to clearly outline the transfer and articulation processes for students, faculty, advisors, and administrators.
- ✓ Survey community colleges to identify ways in which they are addressing teacher shortages, areas in need of improvement, and funding priorities.

WHAT CAN GRANTMAKERS DO?

Foundations and corporate funders can provide grants to support community college teacher recruitment and preparation efforts, similar to the ways in which the National Science Foundation has played a major role in improving training for future science and mathematics teachers at community colleges. Grants that support elements or innovations within programs can help programs grow, but they need to be institutionalized by the end of the grant so that programs don't become vulnerable when the grants end.

Recommendations:

- ✓ Fund community college programs that successfully support and guide potential teachers who can address local teacher shortage needs.
- ✓ Provide support for interinstitutional collaborations, student tracking, and replicating best community college teacher preparation practices.
- ✓ Conduct national forums that bring together community college representatives to develop models for successful teacher recruitment and preparation programs.
- ✓ Sponsor evaluations that measure the effectiveness of community college teacher education programs.
- ✓ Fund studies about the retention rates of urban teachers who participated in community college teacher preparation course work, fieldwork, and other activities.

Program Highlights

With their commitment to teaching and learning, and with so many prospective teachers as students, **community colleges are in a pivotal position** to recruit and help prepare the next generation of teachers.[23]

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Program Highlights

BRONX, NEW YORK
The Education Associate Program at Bronx Community College (BCC)

What is the program's history?

The program started in the 1970s to help address the shortage of qualified teacher aides in the Bronx public schools, and within a few years, expanded its focus to include increasing the diversity in the teaching force and addressing the severe local teacher shortage. The program has grown to be one of the largest programs at BCC. It has a prominent status on campus, a history of many success stories about transforming students' lives, and a strong reputation for producing well-qualified and well-prepared students.

Who are the students?

There are more than 750 students in the Education Associate Program. Participants are approximately 72% Hispanic, 25% African American, and 3% of other backgrounds, and are mostly from low-income families. Almost 90% are female; 60% are single parents or have other family responsibilities. The average age is 29.

What accounts for the program's successes?

- ✔ A strong program director, with experience in teaching at the K-12 and college levels, an ability to develop and manage resources and collaborations, and a dedication to the community and the students.
- ✔ Participation in the Bronx Educational Alliance, a collaboration of district schools, BCC, and Lehman College (the only public four-year university in the Bronx), which seeks to develop programs that serve students at all levels.
- ✔ Strong support for future teachers and the Education Associate Program from BCC's president and other college administrators.
- ✔ Strong articulation agreements with Lehman College (to which about 50% of BCC education students transfer) and other colleges in the CUNY system, with 60 credits fully transferable to partner four-year institutions; and good communication between the program director and administrators at Lehman.
- ✔ Relationships with the NYC Board of Education, which has resulted in an on-campus K-12 lab school on the BCC campus, where education students can do fieldwork; and collaborations with local school districts, which include internship placements for students, volunteer opportunities through the Bronx Educational Alliance, and student participation in the America Reads program.
- ✔ Rigorous and standards-based education courses, combined with innovative instructional strategies, small group and cooperative learning, high expectations for students, an emphasis on oral communication and writing, and extensive field placement experiences.
- ✔ Faculty members who call on their own teaching experience, and provide academic, transfer, and personal advisement and mentoring.

In the Bronx Education Associate Program, field placement is one of the central features of the curriculum; students work in the classroom three hours per week. Students observe the development and learning of a few children, conduct small group instruction, and present a research paper about their experience to their peers.

What are the program outcomes?

Of graduates surveyed in 1999, 50% had transferred to a baccalaureate degree program, higher than the national transfer average of approximately 25% for all community college students who transfer within

five years. Many BCC students end up teaching, according to anecdotal data. An education dean at Lehman College in the Bronx reported that about 80% of their graduates (two-thirds of whom start at community colleges) end up teaching in the Bronx schools.

EL PASO, TEXAS
The Partnership for Excellence in Teacher Education (PETE) Program at El Paso Community College

What is the program's history?

In the mid-1980s, the University of Texas at El Paso (UTEP) faculty and administrators became concerned about the quality of education provided by the local public school K-12 teaching force, and the local districts were expressing concern about the local teacher training programs. Through a 1996 National Science Foundation (NSF) Collaborative for Excellence in Teacher Preparation grant, UTEP and the local districts joined with El Paso Community College (EPCC) to establish the PETE program. The program was designed to train a diverse group of students for careers as mathematics and science educators in the El Paso public schools. The five-year grant was extended to include a sixth year.

Who are the students?

While there are about 500 students majoring in teacher education at EPCC, the PETE program is a smaller program for about 50 students, open to full-time elementary and secondary education majors who maintain a 3.0 GPA. A vast majority (80%) of the students are Hispanic and most are female.

What accounts for the program's successes?

- ✔ A focus on preparing mathematics and science teachers and on ensuring future teachers have learned and practiced teaching those subjects in interactive ways.
- ✔ Strong articulation agreements with UTEP and other four-year institutions, and clear advisement about transfer via faculty, counselors, and workshops.
- ✔ A formal system that matches PETE interns with mathematics and science faculty mentors, who also model effective teaching practices.
- ✔ Student cohorts that provide peer support; and small classes that encourage one-on-one relationships.
- ✔ A Local Advisory Group, made up of PETE and district representatives, designed to inform the PETE program and students about the needs of local schools.
- ✔ Field experiences for students through relationships with local schools and mini-teach presentations to PETE peers and faculty.
- ✔ Recruitment of high school students, EPCC mathematics and science majors, and EPCC freshmen who express interest in teaching via flyers, newspaper ads, and faculty referrals.
- ✔ Admission and retention measures that ensure program participants are of high quality and are committed to becoming teachers.
- ✔ Rigorous courses that have been restructured to tailor content and pedagogy closely to the needs of future teachers, and monthly workshops that introduce students to pedagogical issues.
- ✔ The added incentive of free tuition plus stipends for PETE students.

At El Paso Community College, a new "Powerful Ideas in Physics" curriculum revolves around an inquiry-based approach to instruction (using a curriculum that has received national attention). The geology course sequence is taught with a collaborative, hands-on approach, and incorporates specially designed lab manuals. In addition, a new mathematics course was designed to use a historical perspective as the focal point for learning algebra and other topics.

What are the program outcomes?

The program's transfer rate is approximately 65%, higher than the national average of approximately 25% of community college students who transfer within five years. About 30–40 graduates (approximately 20% of the total student body over five years) are teaching in local schools. The retention rate is high, with only six participants over the program's six years leaving the program. PETE students tend to become confident and successful school leaders.

DEARBORN, MICHIGAN
The Pre-Education Program at Henry Ford Community College (HFCC)

What is the program's history?

Henry Ford Community College has offered pre-education courses for 30 years, but increased its efforts over the past decade. In 1992, the college formed a Future Teachers Association, which brought education students together and provided information about careers in teaching. Then in 1993, with funding from the Michigan Statewide Systemic Initiative-Teacher Education Redesign Component (MSSI-TERC) and the National Science Foundation, HFCC redesigned the teacher education curricula, starting with mathematics courses. The Pre-Education Committee was formed in 1994, and new courses were developed for prospective pre-K-12 teachers, in order to help address the local need for teachers.

Who are the students?

There were approximately 1,400 pre-education students at Henry Ford Community College in 2000, an increase from 690 in 1997. The program attracts many mid-career changers, and the average students are women in their mid-30s who are working and have children. The program also serves paraeducators from local districts interested in becoming certified teachers. In 1997 (latest data available), students were approximately 27% African American, 14% Arab American, 3% Hispanic, and 2% Asian.

What accounts for the program's successes?

- ✓ A dedicated program director who assumes multiple responsibilities, and faculty who work individually with education students, attend monthly meetings, tailor class work to future teachers, and model effective teaching.
- ✓ Strong articulation agreements with local four-year colleges and universities, especially University of Michigan-Dearborn, Wayne State University, and Marygrove College, which has pioneered a program to recruit and train African American male teachers.
- ✓ An interdisciplinary council that meets regularly to review curriculum and articulation agreements, and meets with university representatives to discuss and ensure smooth transfer and academic and personal support for students.
- ✓ A network of collaborations with local school districts that provides information about the need for teachers, helps paraeducators become certified teachers, and provides field experiences for students.
- ✓ A collaboration with UMD and the Dearborn and Detroit public schools, called the Local Alliance for Urban Schools, designed to increase recruitment of underrepresented individuals to teach mathematics and science in urban schools and link students with science and mathematics teachers as mentors.

Henry Ford faculty have worked closely with University of Michigan-Dearborn faculty to restructure science and mathematics courses and to shape the pre-education program and articulation agreements. The Michigan Statewide Systemic Initiative-Teacher Education Redesign Component, funded by a National Science Foundation grant, helped to initiate this long-standing partnership.

- ✓ Recruitment through mailing flyers to local high schools, Future Teachers Association meetings, an annual conference for students interested in teaching, and presentations by the program director at college events.
- ✓ Demanding and clearly defined course work and a 2.5 GPA requirement for transfer; beginning work in major/minor teaching areas; and redesigned course work that focuses on writing across the curriculum and hands-on learning.

What are the program outcomes?

HFCC education students transfer at an estimated rate of 40%, higher than the national average of approximately 25% of all community college students who transfer within five years. However, the system for tracking pre-education students is not yet accurate, and the program director reports that close to 90% of elementary pre-education students transfer. Both two-year and four-year faculty report that students are prepared and do well in the four-year education programs to which they transfer.

MIAMI, FLORIDA
The School of Education at Miami-Dade Community College (M-DCC)

What is the program's history?

In 1998, M-DCC consolidated all courses, faculty, and requirements for the associate degrees in education, including elementary, secondary, and special education, and formed the country's first community college school of education. The program aims to address the teacher shortage crisis in the Miami-Dade public schools, especially the need to increase teacher diversity to meet the needs of a diverse student body. The M-DCC School of Education provides its approximately 4,500 students with the course work equal to the first two years of higher education, as specified by the state of Florida, so that they can transfer with full junior status into a four-year program that will lead to teacher licensure.

M-DCC education students persist and achieve at least as well as students who began at the four-year institution, and have higher GPAs and fewer credits to degree.

Who are the students?

The student body at the InterAmerican campus, where the Miami-Dade School of Education is located, is in Little Havana, a predominantly Cuban, Cuban American, and Central American neighborhood. Eighty-seven percent of the students work part-time while attending college; 63% are first-generation college students; 77% are female; and only 23% come from families with annual incomes above $30,000. The average age is 33, and many are nonnative English speakers.

What accounts for the program's successes?

- ✓ A strong and dedicated campus president and academic dean who support program efforts; a healthy dynamic of dedicated new and veteran faculty; participation of general college faculty in education course design; and a department chair who assumes multiple responsibilities.
- ✓ State-mandated articulation, with course titles and numbers matching those of the four-year state university, plus additional agreements with several private universities.
- ✓ Partnerships with the Miami-Dade school district, including formation of professional development schools; establishment of a Teacher Quality Institute for current teachers to upgrade their skills; development of a paraprofessional-to-teacher program, where teacher aides can take courses to become certified; and relationships around field placements and service learning opportunities for education students.

- ✔ Recruitment through brochures, relationships with high school guidance counselors and dual-degree programs; and exposure to teaching for high school students in the Future Teachers of America clubs.
- ✔ A wide array of courses within state-mandated requirements; a cross-discipline approach to learning; a focus on integrating technology into the classroom; integration of course work with field placement experiences; and service learning opportunities.
- ✔ Formal guidance counseling around test results and remediation placement; informal assistance by faculty and administrators (soon to be formalized); pamphlets detailing course requirements for transfer; an online resource, Florida Academic Counseling and Tracking for Students (FACTS), where students can check their transcript against state requirements; and financial support through a substantial state-sponsored scholarship for prospective teachers of color, and through one university's reduced tuition for M-DCC graduates.

What are the program outcomes?

Approximately 43% to 50% of M-DCC education majors transfer to state or private colleges, higher than the national average of an estimated 25% for all community college students who transfer within five years. The school has succeeded in integrating state requirements for teacher preparation with a commitment to diversity and innovation. M-DCC education students persist and achieve at least as well as students who began at the four-year institution, and have higher GPAs and fewer credits to degree. Several have become National Board certified master teachers.

PHILADELPHIA, PENNSYLVANIA
The Education Curriculum at the Community College of Philadelphia (CCP)

What is the program's history?

Education courses have been offered since 1965 at CCP, the only public higher education institution in the city, to address the teacher shortage problem in the city's public schools. In 1986, renewed efforts to strengthen the program led to the hiring of a coordinator and rebuilding of the Education Curriculum program to support associate-degree students to transfer to a four-year institution. Since 1993, through participation in the CETP (Collaborative for Excellence in Teacher Preparation) grant and the NSF-ATE (Advanced Technological Education) grant, the National Science Foundation has supported several of CCP's efforts to strengthen mathematics and science teacher preparation programs.

Students are kept together by offering special sections or courses just for teacher education students.

Who are the students?

The average age of the education students is 29; most are on some form of financial scholarship or tuition assistance and are balancing family, work, and school responsibilities. Almost half of the students are African American and about 5% are of Hispanic backgrounds. Sixty-six percent of the students in the program are female.

What accounts for the program's successes?

- ✔ A highly enthusiastic and energetic program director, who is dedicated to the students, and has special talents in negotiating with four-year institutions and local school districts; an approachable yet demanding faculty, any of whom are former school practitioners who help with field placements, model good teaching practices, introduce students to the realities of the urban classrooms, and work

closely with counselors and advisors; and a Core Curriculum Coordinating Committee, which oversees and manages the Education Curriculum program and monitors articulation agreements and relationships.

- ✓ Articulation agreements with 14 four-year institutions, including Temple University; a Temple faculty Core Curriculum Organizing Committee, which works monthly with CCP faculty to design, schedule, and evaluate courses that are aligned to state and NBPTS standards.
- ✓ Dual admission programs with Temple and Drexel universities, which allow students who are accepted but cannot afford to attend the four-year college to complete the first two years at the community college.
- ✓ Field placements and tutoring opportunities at the local magnet high school, whose students can take courses at CCP at a reduced rate; and a program director who participates in an advisory council, which brings together many local higher education institutions to enhance the quality of mathematics teaching and learning in the public schools.
- ✓ Intense recruitment of students at high school fairs, through high school guidance counselors, and via mailings and presentations, and active recruitment of paraeducators and CCP noneducation students.
- ✓ Strong education courses, a public speaking course, a focus on working in urban classrooms, and opportunities to tutor and observe in the public schools.
- ✓ Support provided by a transfer counselor who informs students and administrators about the articulation agreements, writes transfer guides, holds workshops, and posts information on the Web; a freshman orientation course and academic counseling; advisement by the program director; tutoring; and faculty assistance with PRAXIS exam preparation.
- ✓ Substantial financial support for students who participate in the Drexel/CCP and Temple/CCP dual enrollment programs; and a recently opened women's center, which provides child care, counseling, housing, and other life-issues supports.

What are the program outcomes?

CCP boasts a transfer rate of 75%, compared to the approximately 25% of all community college students who transfer within five years. In addition, CCP students have strong academic records. Ninety-two percent of fall 1998 education transfer students to Temple reenrolled or graduated, a rate higher than that of all transfer students (90.3%). CCP students who transfer to Temple University and students who started out at Temple perform equally on the PRAXIS exam.

PHOENIX, ARIZONA
The Urban Teacher Corps (UTC) at Phoenix College

What is the program's history?

In 1989, led by the mayor of Phoenix, city and education officials in Maricopa County formed the Urban Teacher Corps (UTC) to help address the local teacher shortage, especially in bilingual education. The UTC program encourages and supports public school employees from ten local districts to complete their associate degree, transfer to a four-year institution, become certified, and return to their district to teach. In 1997, the program expanded to include school employees such as bus drivers, cafeteria workers, and custodial staff, in addition to teacher's aides. The program moved from the Rio Salado campus to Phoenix College in 2000, and expectations are that the program will expand the number of participating districts and increase the number of students.

Who are the students?

UTC students are individuals who are already working in local Phoenix school districts. Currently, there are 110 students in the program. A large portion of the students are of Hispanic origin (85%) and 15% are African American. Most participants are female (90%), and many have numerous family responsibilities. The majority of UTC students transfer to Arizona State University (ASU) in Tempe.

What accounts for the program's successes?

- ✔ Two program coordinators who work closely with students and districts, and work with a supportive director and administration to build and maintain relationships with four-year institutions.
- ✔ Coordination between Phoenix College and ASU; and state-mandated articulation that requires seamless articulation and transfer between public community and four-year colleges, which is negotiated annually and supported by published and online course equivalency guides.
- ✔ Recruiting of promising teacher candidates from participating districts, on the basis of referrals by local school administrators.
- ✔ A specified path of study, the Associate in Transfer Partnership degree, for students who have a major and know which institution they want to transfer to.
- ✔ Challenging courses with high standards that integrate teaching skills into all courses, enhanced by real-life experiences drawn from students' work in schools.
- ✔ Cohort grouping, which facilitates peer support and study groups, and helps with tracking of students through transfer and degree completion.
- ✔ Advisement via the program coordinators; a transfer advisor specifically assigned to education majors; and a new Internet advising system, Arizona Course Applicability System (AZCAS), which features guidelines for course equivalencies and a database of all public higher education courses in Arizona.
- ✔ Paid tuition and release time from most participating districts and revolving no-interest loans made possible by American Express.

At Phoenix College, Urban Teacher Corps students who are teacher's aides or other school district personnel can receive tuition paid by the district at both the community college and four-year institution, and reimbursement for books and materials. Through a grant from American Express, the college also offers revolving loans, which are given to students who have agreed to return to the urban schools to teach after they earn certification.

What are the program outcomes?

The UTC transfer rate is 75%, higher than the national average of approximately 25% of all community college students who transfer within five years. Approximately 75 UTC graduates have completed degrees and returned to their Phoenix-area communities as teachers. Up to 80% of ASU education students graduate with honors.

Overview of Community Colleges

Community colleges, with their large enrollments, low tuition, and high numbers of students of color, are **potentially important sources** of a diverse pool of prospective teachers.

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State-by-State Overview of Community Colleges

Community colleges, with their large enrollments, low tuition, and high numbers of students of color, are potentially important sources of a diverse pool of prospective teachers. Many states have elements in place, such as articulation agreements that smooth the transfer process; a common core of courses, in which the same courses are required; and course numbers that are the same at the community college and at the four-year college, eliminating confusion for students and their advisors. These elements make it easier for students to transfer to a four-year institution to obtain a bachelor's degree. According to the Education Commission of the States, most states do not have streamlined programs written into legislation and leave it up to the two- and four-year institutions to negotiate their processes [*Footnote a*]. In addition, only a handful of states specifically address teacher preparation pathways at the community college level. Following is a summary of what states across the nation are doing in this regard.

State	Number of Community Colleges 2001 *Footnote b*	Student Enrollment 1995, full- and part-time *Footnote c*	Tuition 1997–1998 *Footnote d*	Students of Color 1995 *Footnote e*	State Legislation that Supports Articulation Agreement *Footnote f*	Common Courses *Footnote g*	Common Course Numbering *Footnote h*
Alabama	29	147,587	$ 1,343	34,418	Yes	Yes	No
Alaska	5	840	$ 2,120	106	No	No	Yes
Arizona	22	155,264	$ 820	43,807	No	No	No
Arkansas	24	26,798	$ 942	4,820	Yes	In Development	No
California	123	1,080,275	$ 379	537,682	Yes	Yes	No
Colorado	15	83,632	$ 1,449	19,362	Yes	Yes	No
Connecticut	16	44,569	$ 1,814	10,346	Yes	Yes	No
Delaware	1	11,664	$ 1,380	2,538	No	No	Yes
Florida	31	354,023	$ 1,252	116,061	Yes	Yes	No
Georgia	37	94,736	$ 1,153	30,497	No	Yes	No
Hawaii	9	27,278	$ 956	21,360	No	No	Yes
Idaho	5	15,858	$ 1,102	1,105	No	Yes	No
Illinois	58	341,792	$ 1,347	103,107	Yes	Yes	No
Indiana	5	42,703	$ 2,415	5,219	Yes	No	No
Iowa	21	57,475	$ 1,885	4,214	No	No	No
Kansas	25	77,059	$ 1,285	11,613	Yes	No	No
Kentucky	17	49,986	$ 1,232	4,793	Yes	No	No
Louisiana	9	40,095	$ 1,080	13,592	Yes	Yes	No
Maine	11	7,005	$ 2,594	185	No	No	No
Maryland	19	109,264	$ 2,171	35,956	Yes	Yes	No
Massachusetts	26	84,623	$ 2,221	14,856	Yes	No	No
Michigan	31	206,140	$ 1,618	33,514	Yes	No	N/A
Minnesota	36	92,256	$ 2,245	7,952	N/A	N/A	Yes
Mississippi	16	52,565	$ 958	14,996	No	No	No
Missouri	18	76,656	$ 1,311	11,581	No	Yes	N/A
Montana	15	6,943	$ 1,713	2,040	N/A	N/A	No
Nebraska	8	37,518	$ 1,267	3,128	Yes	Yes	N/A
Nevada	5	35,879	$ 1,106	8,064	N/A	N/A	No
New Hampshire	7	13,603	$ 3,177	311	No	No	No
New Jersey	21	137,449	$ 2,033	41,857	No	No	No
New Mexico	17	34,787	$ 679	17,577	Yes	Yes	No
New York	66	262,815	$ 2,576	84,591	No	No	No

State	Number of Community Colleges 2001 *Footnote b*	Student Enrollment 1995, full- and part-time *Footnote c*	Tuition 1997-1998 *Footnote d*	Students of Color 1995 *Footnote e*	State Legislation that Supports Articulation Agreement *Footnote f*	Common Courses *Footnote g*	Common Course Numbering *Footnote h*
North Carolina	60	147,250	$ 584	36,103	Yes	Yes	Yes
North Dakota	10	8,669	$ 1,798	1,665	No	Yes	No
Ohio	40	152,739	$ 2,388	22,197	Yes	No	No
Oklahoma	15	71,902	$ 1,285	15,130	Yes	Yes	Yes
Oregon	18	80,561	$ 1,573	10,238	Yes	Yes	No
Pennsylvania	28	112,283	$ 2,098	21,235	No	No	No
Rhode Island	2	18,315	$ 1,746	2,013	Yes	No	No
South Carolina	19	61,697	$ 1,162	17,610	Yes	No	No
South Dakota	9	3,510	$ 3,930	307	Yes	Yes	No
Tennessee	18	84,226	$ 1,133	14,682	Yes	No	Yes
Texas	71	432,006	$ 820	175,374	Yes	Yes	No
Utah	6	30,728	$ 1,439	3,360	Yes	Yes	No
Vermont	4	5,021	$ 2,616	97	No	Yes	No
Virginia	25	130,781	$ 1,475	32,180	Yes	No	No
Washington	35	168,370	$ 1,516	31,523	Yes	Yes	No
West Virginia	11	7,344	$ 1,404	233	Yes	No	No
Wisconsin	19	107,366	$ 2,061	11,749	No	Yes	Yes
Wyoming	7	18,059	$ 1,157	1,406	Yes	No	Yes
Outlying areas	16						
Total	1,163	5,440,964		1,638,350			

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Selected Resources and Endnotes

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SELECTED RESOURCES

Organizations:

The American Association of Community Colleges
One Dupont Circle, NW
Washington, DC 20036
http://www.aacc.nche.edu

The American Mathematical Association of Two-Year Colleges
Southwest Tennessee Community College
5983 Macon Cove
Memphis, TN 38134
http://www.amatyc.org/index.html

Center for Community College Policy
The Education Commission of the States
700 Broadway, #1200
Denver, CO 80203-3460
Tel: 303.299.3600 Fax: 303.296.8332
http://www.ecs.org

Community College Research Center
Teachers College, Columbia University
Box 174, 525 West 120th Street
New York, NY 10027
Tel: 212.678.3091 Fax: 212.678.3699
http://www.tc.columbia.edu/ccrc

The League for Innovation in the Community College
4505 East Chandler Boulevard, Suite 250
Phoenix, Arizona 85048
Tel: 480.705.8200 Fax: 480.705.8201
http://www.league.org/welcome.htm

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